

What is claimed is:

1. A doctor blade assembly for use in a flexographic printing system comprising:

an upper blade positioned to provide contact with an anilox roll;

an ink chamber positioned below said upper blade;

a lower blade positioned such that a gap exists between said lower blade and said anilox roll sufficient in size to allow ink to be drawn into and expelled from said ink chamber; and

an ink tray positioned below said lower blade for receiving ink expelled from said gap.

2. The doctor blade assembly of claim 1, wherein said gap is positioned such that ink is consistently transferred to said anilox roll.

3. The doctor blade assembly of claim 1, wherein said ink is expelled from said ink chamber through said gap once a critical pressure has been reached inside said ink chamber.

4. The doctor blade assembly of claim 1, wherein said assembly is retractable such that said upper blade provides sufficient contact for varying diameters of said anilox roll.

5. The doctor blade assembly of claim 1, wherein said upper blade is positioned at an angle ranging from 19 to 30 degrees from the vertical axis.

6. The doctor blade assembly of claim 1, wherein said upper blade is in contact with said anilox roll for the entire length of said anilox roll.

7. The doctor blade assembly as defined in claim 1, wherein said lower blade is positioned to mirror the angle of said upper blade with the vertical.

8. The doctor blade assembly of claim 1, wherein said ink chamber is between 10 and 32 inches wide, 1-1/2 to 4-1/2 inches in height, 19/64 to 57/64 inch in depth from said anilox roll, said upper blade is 3/4 to 7/8 inch in blade width, and said gap is 0.020 to 0.125 inch.

9. A system comprising:

an anilox roll coupled to an ink supply;

a printing cylinder coupled to said anilox roll for transferring patterns to a web;

ink chamber means for consistently applying ink to said anilox roll and thereby to said printing cylinder; and

gap means for increasing volume in said ink chamber means and for allowing ink to be expelled from said ink chamber means.

10. The system of claim 9, wherein said ink chamber means for consistently applying ink further comprises means for maintaining consistent ink transfer from said ink chamber means to said anilox roll.

11. The system of claim 9, wherein said ink chamber means for consistently applying ink further comprises means for maintaining consistent hydraulic pressure within said ink chamber means.

12. The system of claim 9, wherein ink is expelled through said gap means once critical pressure is reached inside said ink chamber means.

13. The system of claim 9, wherein said system is retractable such that said ink chamber means can accommodate varying diameters of said anilox roll.

14. The system of claim 9, wherein said ink chamber means further comprises an upper blade means positioned at an angle ranging from 19 to 30 degrees from the vertical axis.

15. The system of claim 14, wherein said upper blade means is in contact with said anilox roll for the entire length of said anilox roll.

16. The system of claim 14, wherein said ink chamber means further comprises a lower blade means positioned to mirror the angle of said upper blade means with the vertical.

17. The system of claim 9, wherein said ink chamber means is between 10 and 32 inches wide, 1-1/2 to 4-1/2 inches in height, 19/64 to 57/64 inch in depth from said anilox roll, said upper blade means is 3/4 to 7/8 inch in blade width, and said gap means is 0.020 to 0.125 inch.

18. A method of metering the transfer of ink into anilox cells, comprising the steps of:

- (a) carrying ink on anilox roll from an ink supply through a gap
- (b) rotating said anilox roll against an upper blade;
- (c) shaving a volume of excess ink from the surface of the anilox roll;
- (d) directing the flow of said ink into an ink chamber; and
- (e) transferring ink from said ink chamber to said anilox cells under pressure.

19. The method of 18, further comprising the step of expelling ink out of said gap between said anilox roll and a lower blade such that the process of ink transfer is consistent.

20. The method of claim 19, further comprising the step of reusing said expelled ink in the performance of steps (a) through (e).

21. The method of claim 19, wherein said ink is expelled from said ink chamber upon reaching a critical pressure inside said ink chamber.

22. The method of claim 18, further comprising the step of consistently transferring ink from said anilox cells to a means for transferring a pattern to a web.

11/11/2011 11:11:11 AM